

REMARKS

Applicant has amended claims 1, 16, 30 and 44. The short description of Figure 1 has been amended. Figures 1, 2, 3 have also been amended.

Claims 1-31 are pending, with claim 15 having been withdrawn. Reconsideration of this application, as amended, is requested.

Changes to the Figures

The label "Prior Art" added to each of FIGS. 1, 2 and 3 in the previous paper has been removed.

The abrasive article structure illustrated in FIG. 1 of this application is not within the scope of the pending claims. The claims are directed to a method of making an abrasive article that has a distal linear region, which when projected on to a plane that is coplanar with its respective base, extends between a non-central point on the first side of the base and a non-central point on the second side of the base, and that is not positioned at the perimeter of the base; the article of FIG. 1 does not meet these requirements.

FIGS. 2 and 3 illustrate process for making abrasive articles that are within the scope of the pending claims, as well as the article of FIG. 1.

Section 112 Rejections

Claims 1-14 and 16-57 were rejected under 35 U.S.C. 112, first paragraph, for various reasons.

The "prior art" designation for the processes illustrated in FIGS. 2 and 3 has been removed, returning FIGS. 2 and 3 to their originally filed state. This should remedy the Examiner's concern regarding failure to comply with the enablement requirement.

Regarding the limitation that the linear distal region is not co-linear with the third side, applicant disagrees with the rejection. As can be seen in each of FIGS. 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, FIG. 5, and FIG. 6B, the distal linear region, when viewed from the top of the abrasive composite, is not co-linear with, on top of, or orthogonal with the perimeter edge of the composite. The Examiner is invited to suggest alternate language.

Regarding the limitation that the third side extends between the first side and the second side, the independent claims have been amended to clarify that each of the first, second and third sides are part of the perimeter of the composite. This should remedy the Examiner's concern regarding the phrase.

Applicant's attorney notes that the Office Action repeated states "parameter" when discussing this issue. Applicant's attorney has understood this to be a repeated error, and that "perimeter" was intended. The Examiner is invited to contact the undersigned to explain this issue, if "parameter" was indeed intended.

Withdrawal of the Section 112 rejections is requested.

Section 102 / 103 Rejections

Claims 1, 2, 5-7, 9, 11, 13-14, 16-17, 20-22, 24, 26, 28-31, 34-36, 38, 40, 42-45, 48-50, 52, 54, and 56-57 were rejected under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Pieper et al. (U.S. Patent No. 5,152,917), both as evidenced by Naujok (U.S. Patent No. 6,761,620) and Flood et al. (U.S. Patent No. 5,484,330).

Claims 3, 4, 8, 10, 12, 18, 19, 23, 25, 27, 32, 33, 37, 39, 41, 46, 47, 51, 53 and 55 were rejected under 35 U.S.C. 103(a) as obvious over Pieper et al. in view of Naujok and Flood et al. All of these rejected claims are dependent claims off of one of claims 1, 16, 30 or 44.

Applicant disagrees with these rejections.

Applicant has previously argued that FIG. 9 of Pieper et al. provides a sawtooth pattern having its linear distal region positioned 90 degrees to or orthogonal to the base edge, which is not what the product of the present process has. In this Office Action, the Examiner has attempted to show other sawtooth shapes that do not have the linear distal region positioned 90 degrees to the base edge. The Office Action points to FIG. 3 of Naujok and FIG. 1 of Flood et al. for saw tooth shapes where the distal region is not on a plane orthogonal to the base. Applicant contends that although these may be sawtooth shapes, they are not the sawtooth shape shown in FIG. 9 of Pieper et al. U.S. Patent No. 5,152,917, Pieper et al., on which the rejections are based, discloses one sawtooth shape, that of FIG. 8, FIG. 9, and also FIG. 17, all which have the distal region on a plane orthogonal to the base. The reference, i.e., Pieper et al., on which the

rejections are based does not disclose any other sawtooth shapes. The Examiner is no doubt aware that a rejection for anticipation under 35 U.S.C. 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. See In re Paulsen, 30 F.3d 1475, 1478-1479 (Fed. Cir. 1994). Pieper et al. does not disclose the sawtooth shape recited by the pending claims. Although there is the statement that "the optimum shape of a composite depends up the particular abrading application" (col. 8, lines 34-35), there is no suggestion of having a sawtooth as recited, since all that Pieper et al. discloses, in respect to sawtooth, is that illustrated in FIGS. 8, 9 and 17.

Further, Applicant continues to contend that Pieper et al. does not disclose a 2x2 array of sawtooth shapes. Pieper et al. discloses 2x2 (and larger) arrays of pyramidal composites.

Applicant contends that, at least for all these reasons provided above, Pieper et al. does not anticipate the pending claims. Withdrawal of the Section 102 rejection is requested.

Additionally, Pieper et al. does not suggest or lead one to the pending claims. At least because Pieper et al. does not meet every recitation of the pending independent claims, claims 1 and 17, and does not suggest every recitation of the pending independent claims, dependent claims are patentable at least for the same reasons that claims 1 and 17 are patentable. Withdrawal of the Section 103 rejection is requested.

Claims 1, 2, 5-7, 9, 11, 13-14, 16-17, 20-22, 24, 26, 28-31, 34-36, 38, 40, 42-45, 48-50 52, 54, and 56-57 were rejected under 35 U.S.C. 103(a) as obvious over Pieper et al. (U.S. Patent No. 5,152,917) in view of Kaisaki et al. (U.S. Patent No. 6,194,317) or Adefris et al. (U.S. Patent No. 6,319,108).

Claims 3, 4, 8, 10, 12, 18, 19, 23, 25, 27, 32, 33, 37, 39, 41, 46, 47, 51, 53 and 55 were rejected under 35 U.S.C. 103(a) as obvious over Pieper et al. in view of Kaisaki et al. and Adefris et al. All of these rejected claims are dependent claims off of one of claims 1, 16, 30 or 44.

Applicants disagree with these rejections.

Pieper et al., and its teachings and lackings, have been discussed above. Pieper et al. is lacking, at least, of a teaching or a suggestion of a sawtooth pattern having its linear distal region not positioned 90 degrees to or orthogonal to the base edge.

The Office Action turns to Kaisaki et al. and Adefris et al., it appears, for teachings that a taper (as compared to a 90 degree or orthogonal to the base) improves removal of the resulting composites from the production tool. It is not understood how this affects the teaching or suggestion lacking in Pieper et al., that of the specific sawtooth construction. Kaisaki et al. and Adefris et al. add no more than is already present in Pieper et al. - Pieper et al. also discloses tapered composites; see any of FIGS. 1, 7, 12-14, and 18-19, all which illustrate shapes that taper away from the backing.

Further, Pieper et al. does not disclose a 2x2 array of the recited sawtooth shapes. Pieper et al. discloses 2x2 (and larger) arrays of pyramidal composites, but not of sawtooth shapes.

At least for all these reasons provided, Pieper et al., even when combined with Kaisaki et al. and Adefris et al., does not suggest or lead one to the pending claims. Additionally, at least for the reasons that Pieper et al. and the secondary references do not meet or suggest every recitation of the pending independent claims, claims 1 and 17, the dependent claims are patentable at least for the same reasons that claims 1 and 17 are patentable. Withdrawal of these rejections is requested.

Summary

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone Applicant's attorney Dan Biesterveld, Reg. No. 45,898, at 651.737.3193.

Respectfully submitted,

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